

## ABSTRACT OF THE DISCLOSURE

5                   METHOD AND SYSTEM FOR FRAGMENT LINKING  
                    AND FRAGMENT CACHING

A method, a system, an apparatus, and a computer program product are presented for fragment caching.

- 10 After a message is received at a computing device that contains a cache management unit, a fragment in the message body of the message is cached. Subsequent requests for the fragment at the cache management unit result in a cache hit. The cache management unit
- 15 operates equivalently in support of fragment caching operations without regard to whether the computing device acts as a client, a server, or a hub located throughout the network; in other words, the fragment caching technique is uniform throughout a network. Cache ID
- 20 rules accompany a fragment from an origin server; the cache ID rules describe a method for forming a unique cache ID for the fragment such that dynamic content can be cached away from an origin server.

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# Drawings

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Method and system for fragment linking and fragment caching

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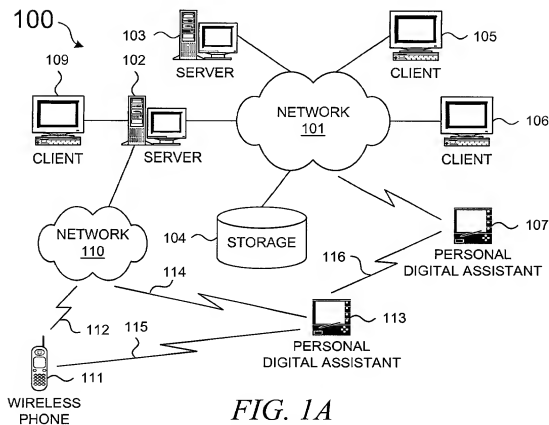


FIG. 1A  
(PRIOR ART)

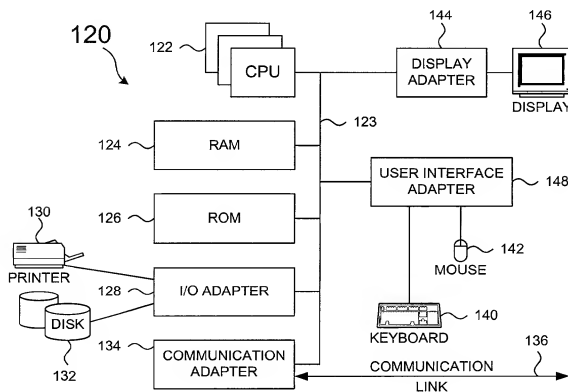


FIG. 1B  
(PRIOR ART)

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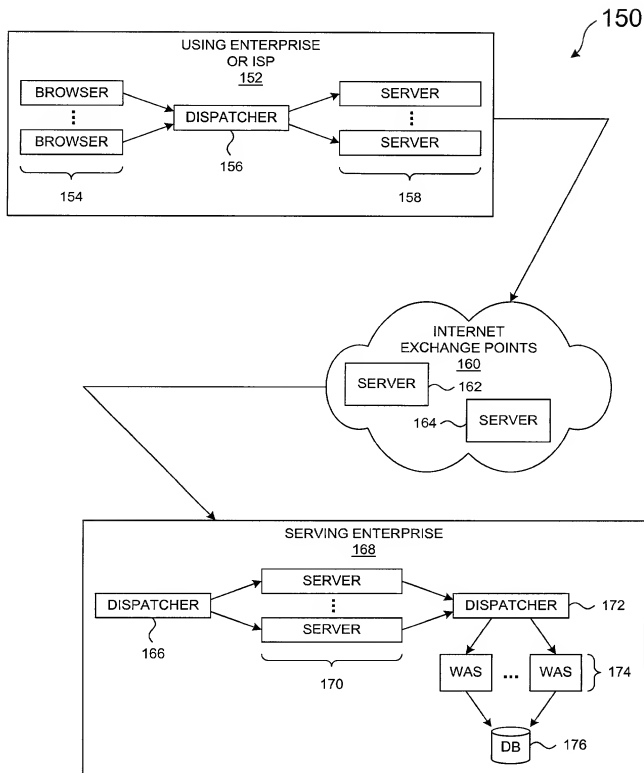


FIG. 1C  
(PRIOR ART)

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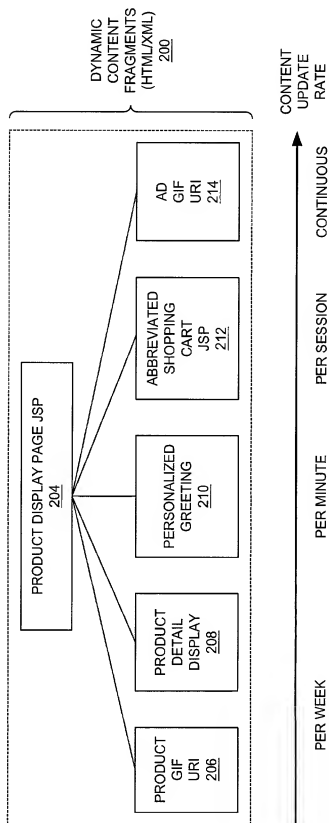


FIG. 2

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```
<!ELEMENT FRAGMENTLINK - O EMPTY -- fragment directive -->
<!ATTLIST FRAGMENTLINK
src      %URL      #REQUIRED -- primary URL of the fragment
alt      %URL      #IMPLIED  -- alternate URL of the fragment
parms    %parmlist  #IMPLIED  -- query parms applied to src
foreach %string    #IMPLIED  -- name of cookie used for
                                -- foreach processing
showlink no|comment|CDATA #IMPLIED
    -- whether this fragmentlink tag should be included as a
    -- comment in the assembled page
id       ID        #IMPLIED  -- unique name of this element
class    CDATA     #IMPLIED  -- class name of this element
>

<!ENTITY % parmlist "CDATA"
-- Space delimited list of form element names
-->
```

Start tag: **required**; End tag: **forbidden**.

*FIG. 3*

```
Fragment = "Fragment" ":" 1#fragment-directive

fragment-directive = fragment-request-directive
                    | fragment-response-directive

fragment-response-directive = "contains-fragments"
                             | "dependencies" "=" quoted-list
                             | "cacheid" "=" rulelist

fragment-request-directive = "supports-fragments"

quoted-list = "<"> 1#string "<">

rulelist = "<"> 1#cacherule "<">

cacherule = "(" parmrule ["," cookierule] ")" | "URL"

parmrule = 1#parmname
parmname = string | "[" string "]"

cookierule = 1#cookienam
cookienam = string | "[" string "]"
```

*FIG. 4*

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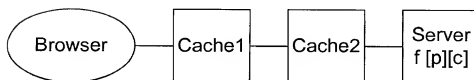


FIG. 5A

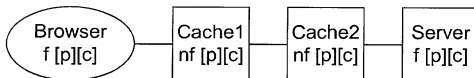


FIG. 5B

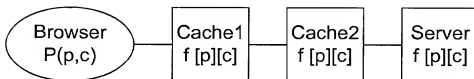


FIG. 5C

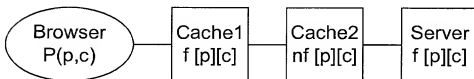


FIG. 5D

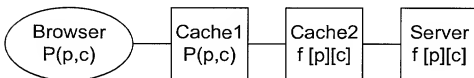


FIG. 5E

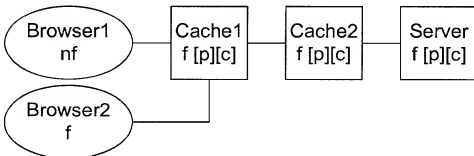


FIG. 5F

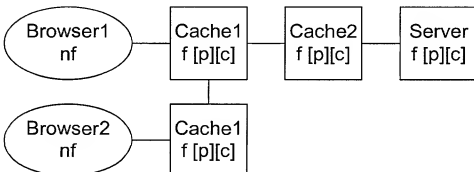


FIG. 5G

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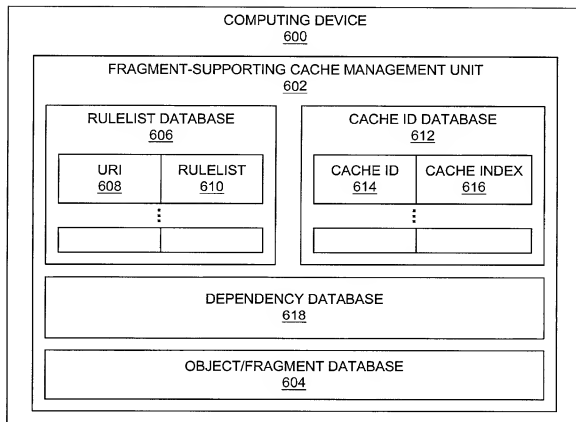


FIG. 6A

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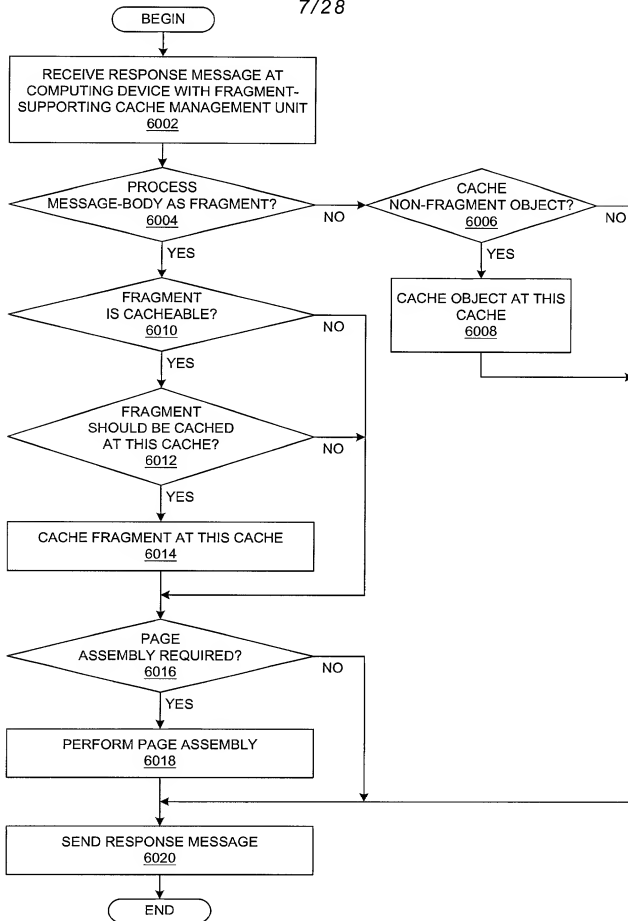


FIG. 6B

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FIG. 6C

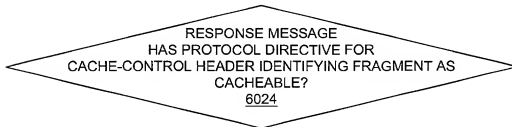


FIG. 6D

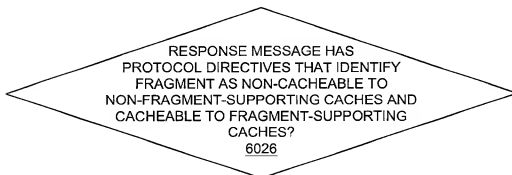


FIG. 6E

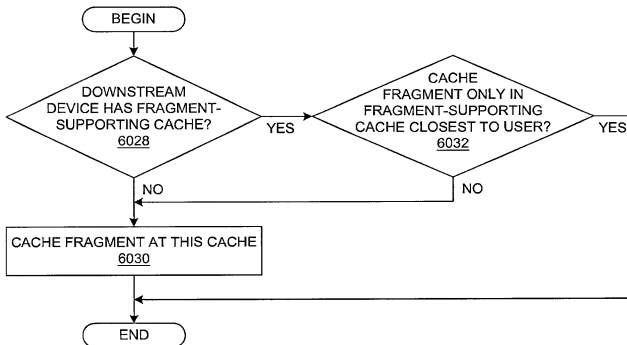


FIG. 6F

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FIG. 6G

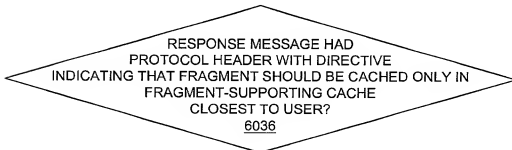


FIG. 6H



FIG. 6I

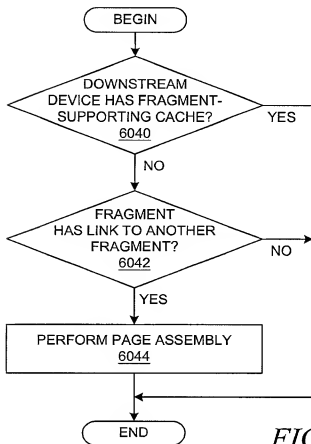


FIG. 6J

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FIG. 6K



FIG. 6L



FIG. 6O

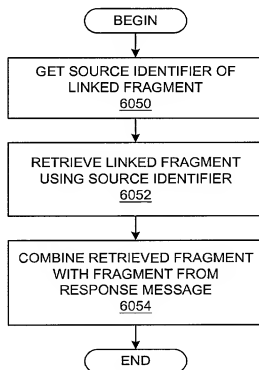


FIG. 6M

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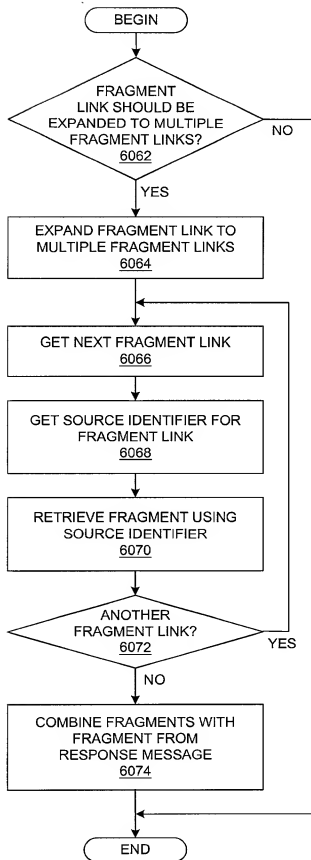


FIG. 6N

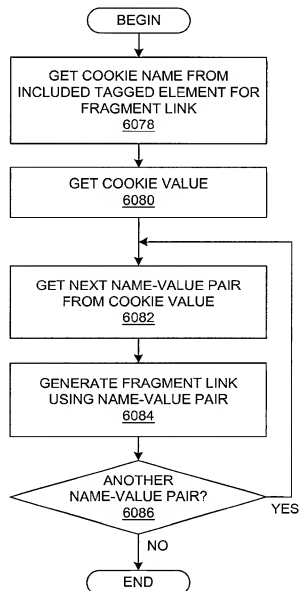


FIG. 6P

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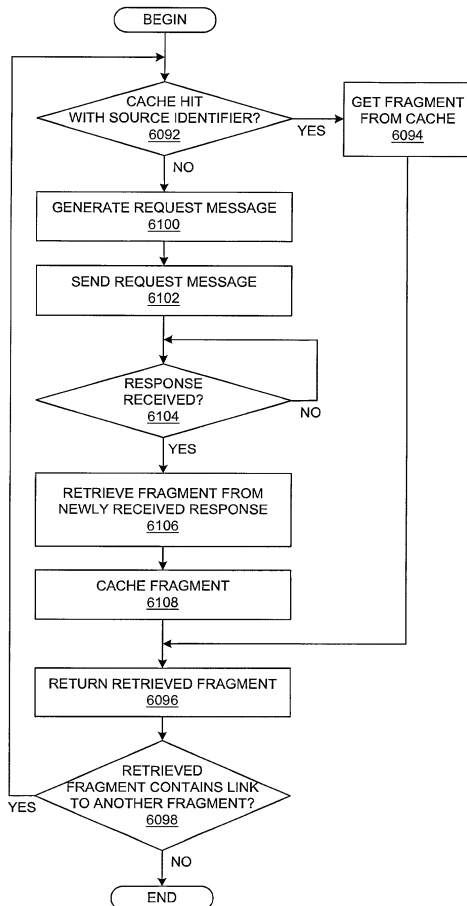


FIG. 6Q

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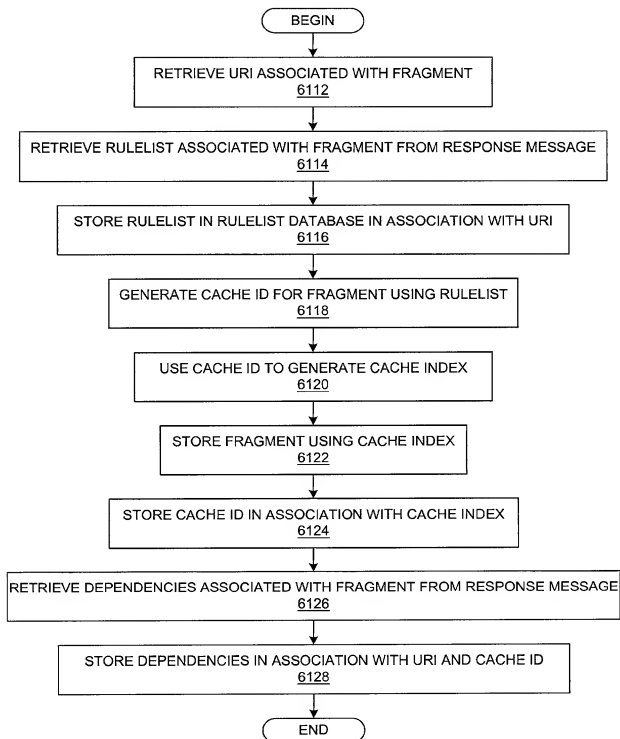


FIG. 6R

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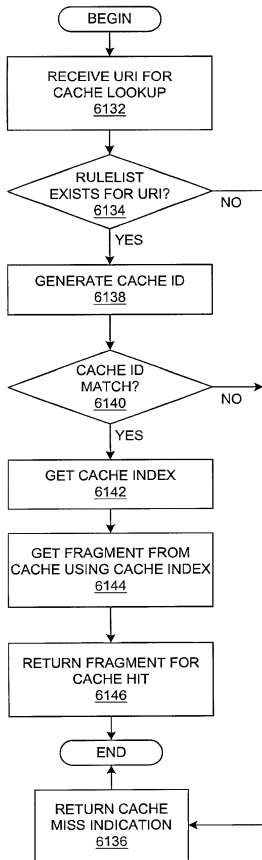


FIG. 6S

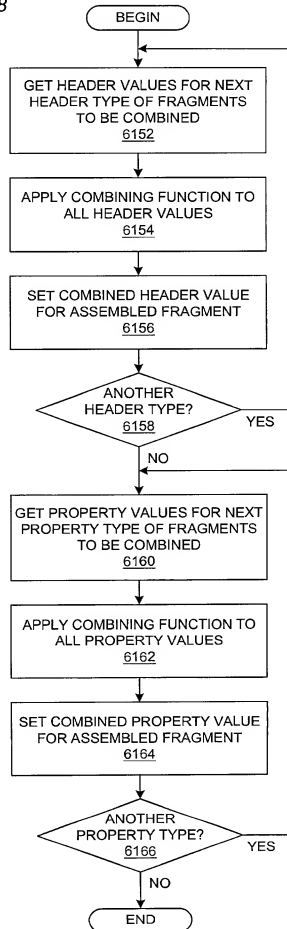


FIG. 6T

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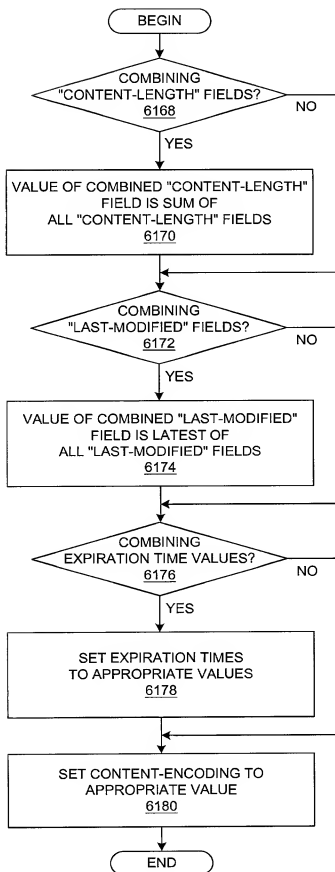


FIG. 6U

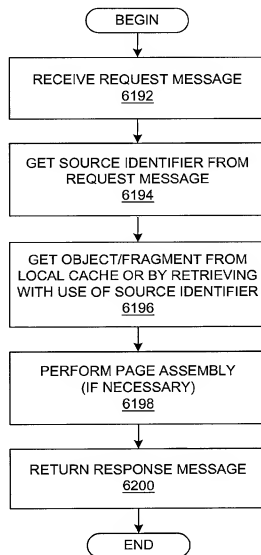


FIG. 6V

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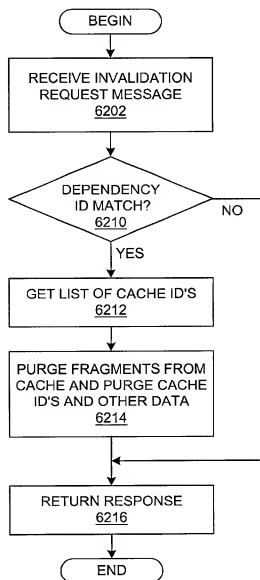
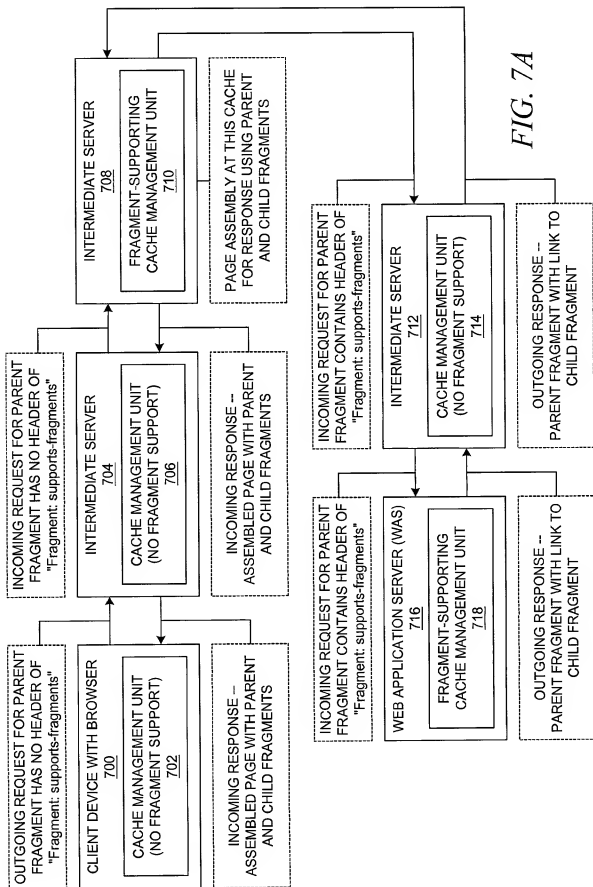


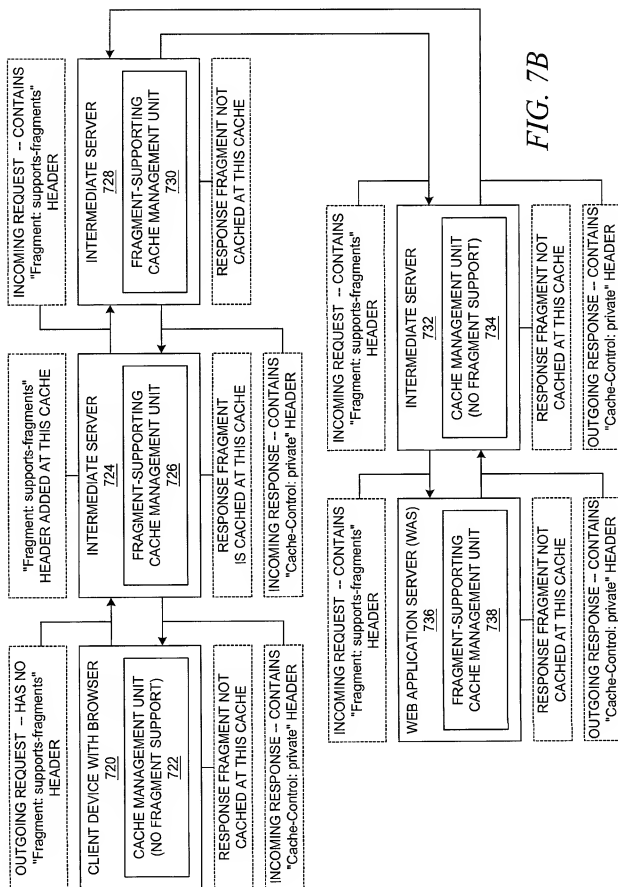
FIG. 6W

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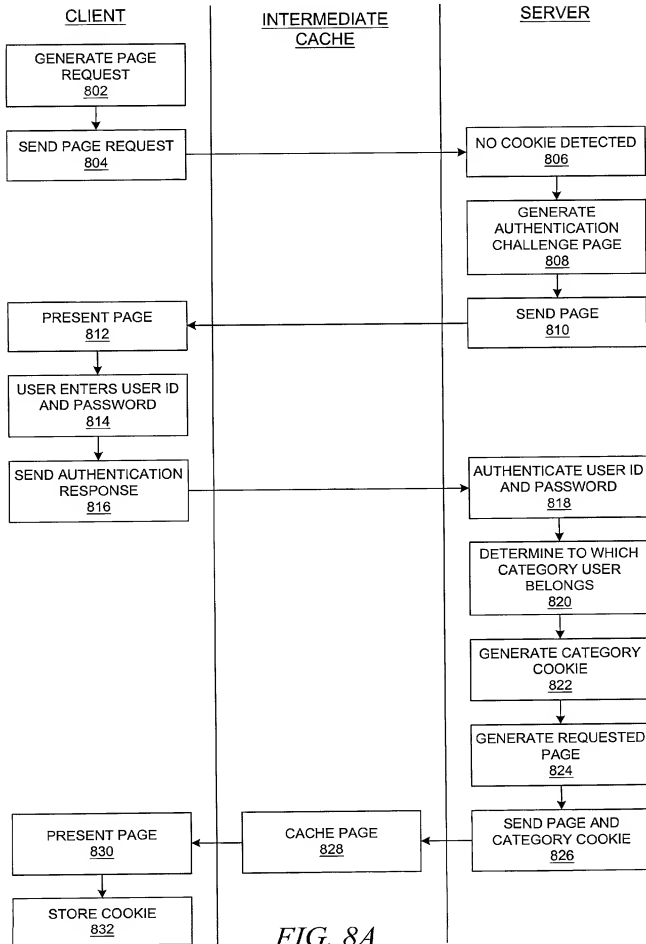


FIG. 8A

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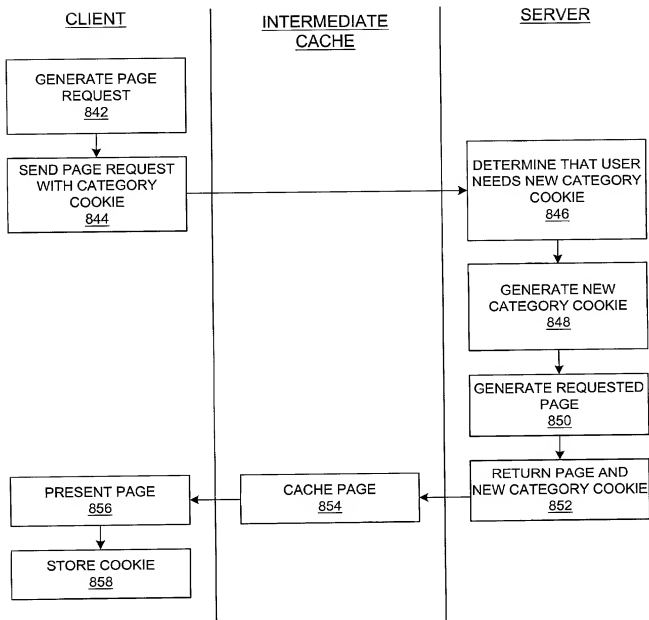


FIG. 8B

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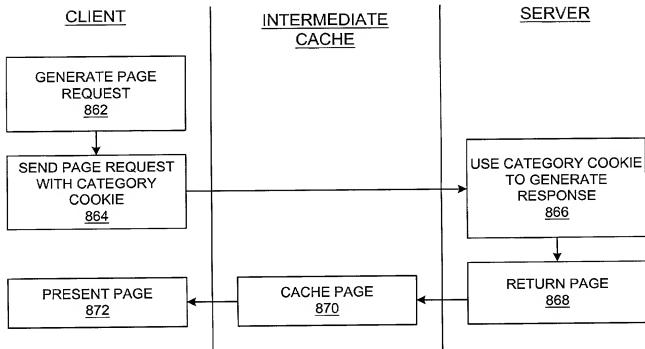


FIG. 8C

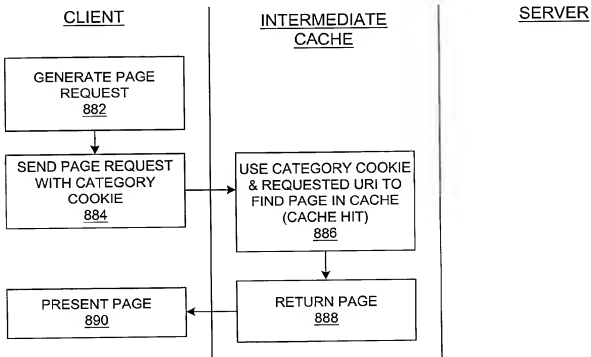


FIG. 8D

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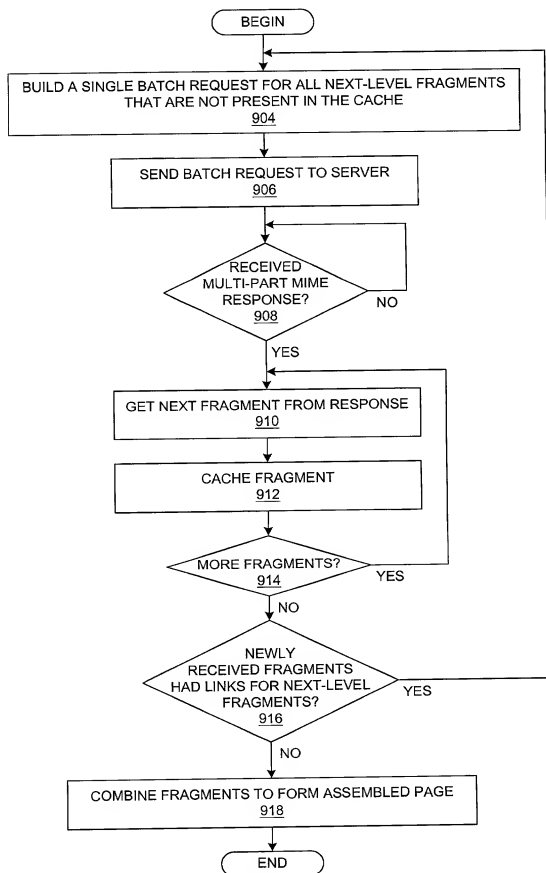


FIG. 9A



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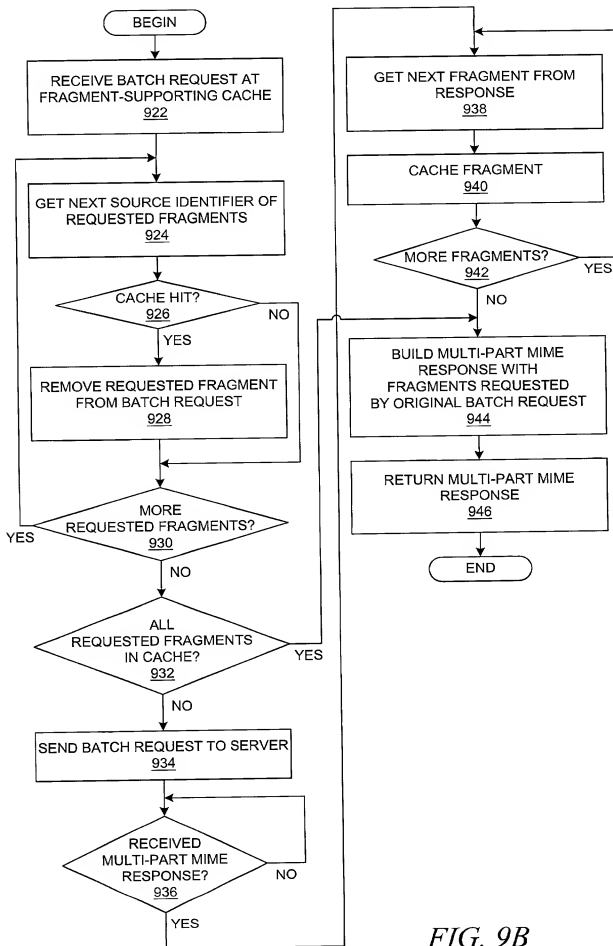


FIG. 9B

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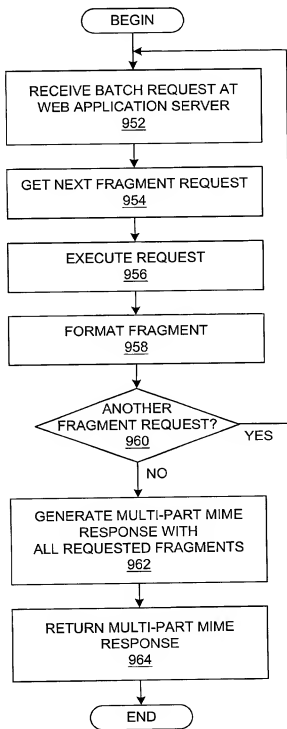


FIG. 9C

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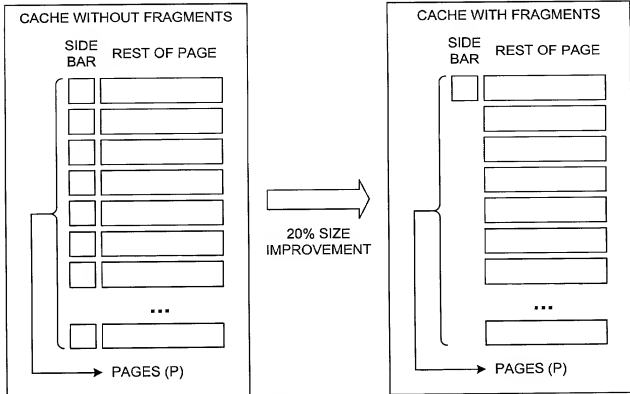


FIG. 10A

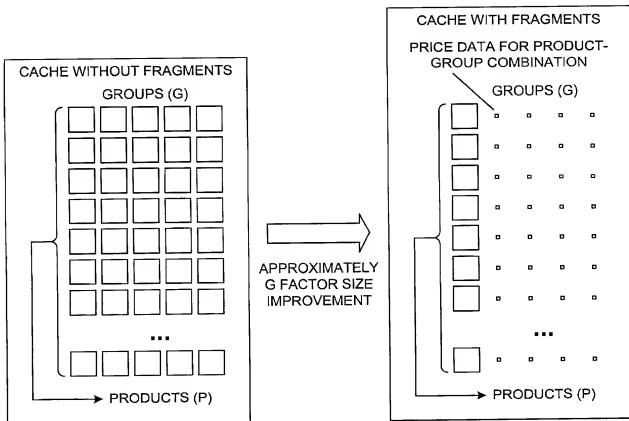


FIG. 10B

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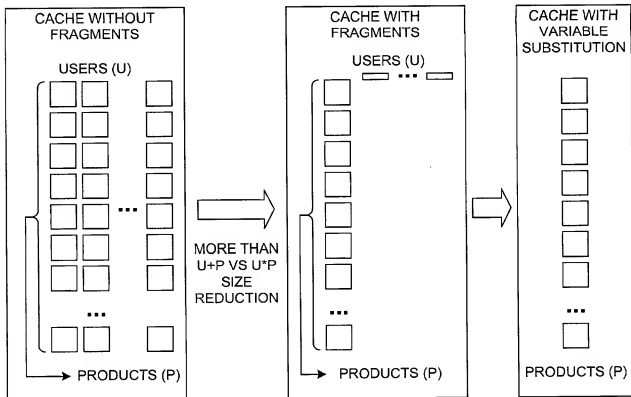


FIG. 10C

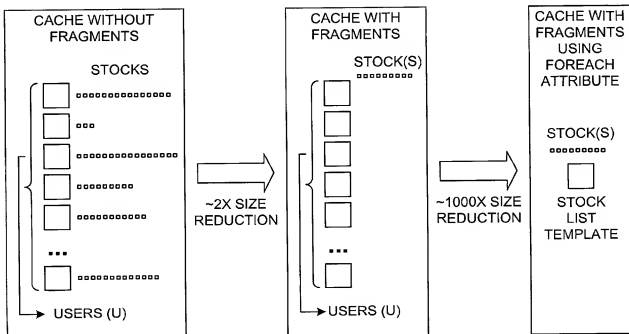
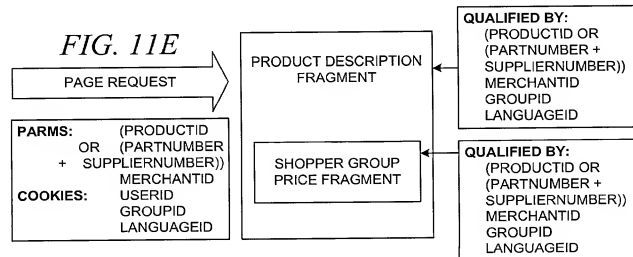
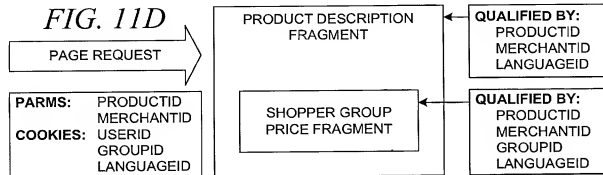
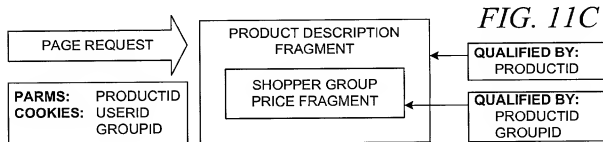
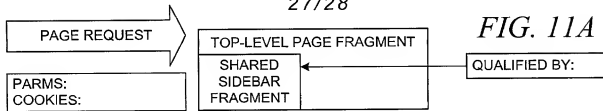


FIG. 10D

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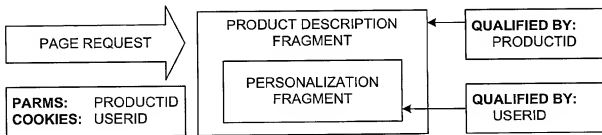


FIG. 11F

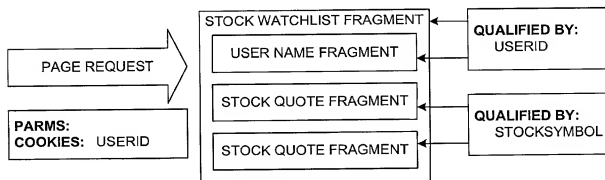


FIG. 11G

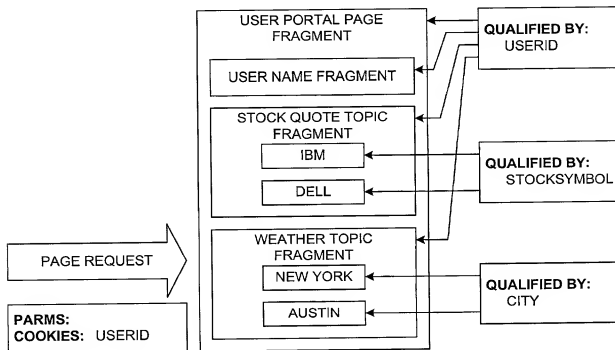


FIG. 11H

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